

REMARKS/ARGUMENTS

Applicants respectfully request reconsideration of the present application in view of the reasons that follow. No claims are presently amended. Claims 1, 5-8, 10, 11, 32, 34, 35, and 37 were previously amended. Claims 1-11 and 32-37 are pending in this application.

I. Claim Rejections Under 35 U.S.C. §§ 102(a) & 102(e)

In Section 4 of the Office Action, Claims 1-9 and 32-37 are rejected under 35 U.S.C. §§ 102(a) and 102(e) as being anticipated by PCT International Publication No. WO 02/054052 to Fish (hereinafter "Fish"). Applicants respectfully traverse the rejection.

The Examiner's arguments in support of the present rejections are a reiteration of the arguments presented by the Examiner in the previous office action. In response to the previous office action, Applicants amended independent claims 1, 32 and 37 to clarify that the nanocylinders recited in each claim are bound to a surface as a result of a direct biomolecular interaction between a biomolecule which is covalently linked to the nanocylinder and a biomolecule which is covalently linked to the surface. The Examiner takes the position that this clarification is not persuasive because "the claims do not require the nanocylinder to be directly linked to the surface; rather, the claims are broadly interpreted to require the nanocylinder to be attached to the surface through biomolecular interactions between the covalently linked biomolecule and complementary biomolecules as required by the last three lines of the claim. Figure 5 of the instant specification shows precisely this arrangement (paragraph 0052 on pages 14-15 of the Specification)." Applicants respectfully submit that in making this statement the Examiner has mischaracterized the last three lines of claim 1 and Figure 5 of the specification.

The last three lines of claim 1 must be read in light of the first five lines of claim 1. These first five lines make it clear that the "at least one biomolecule" on the surface is "covalently linked thereto" and the "at least one complementary biomolecule" on the nanocylinder is "covalently linked thereto." It necessarily follows that the biomolecular

interactions recited in the last three lines of claim 1 are between two biomolecules (*i.e.*, the “at least one biomolecule” on the surface and the “at least one complementary biomolecule” on the nanocylinder) *both of which are covalently linked to their respective substrates*. Thus, claim 1 may not be interpreted broadly to recite nanocylinders that are attached to a surface through biomolecular interactions between a biomolecule covalently linked to a surface and a complementary biomolecule that is not covalently linked to the nanocylinder, as taught by Fish. Because independent claims 32 and 37 include the same relevant language as claim 1, the reasoning above also applies to these claims.

With respect to Figure 5, Applicants submit that, while this figure shows one embodiment of the invention, it does not show the embodiment claimed in pending claims 1, 32 and 37 precisely because it does not show a modified substrate wherein the biomolecular interaction attaching a nanocylinder to the substrate is between a biomolecule covalently bound to a surface and a complementary biomolecule covalently bound to the nanocylinder. Instead, Figure 5 shows a modified surface wherein the biomolecular interaction attaching the nanocylinder to the surface is between a biomolecule covalently bound to a nanocylinder and a complementary biomolecule non-covalently bound to a surface via a linking molecule which is itself covalently linked to the surface. These two different embodiments of the invention (*i.e.*, the embodiment of claim 1 and the embodiment of claim 5) are both set out in paragraph 0037 of the specification.

For at least these reasons, Applicants respectfully submit that Fish does not disclose each of the claim limitations required by Claims 1, 32, and 37. As such, Applicants respectfully request withdrawal of the rejection of Claims 1, 32, and 37, and dependent Claims 2-11 and 33-36 which depend from Claims 1 and 32, respectively.

Applicants further submit that it would not be obvious to modify Fish to include a covalent bond, directly or indirectly, between the analyte and either the electrode surface or a nano-tube. “If a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification.” (M.P.E.P. 2143I01.V., citing *In re Gordon*, 733 F.2d 900.) Clearly, if

the analyte in Fish were covalently bound to either the electrode surface or the nano-tube, it would no longer be free to interact with the binding agents on the surface and the binding agents on the nano-tube. This would render the device of Fish unsatisfactory for its intended purpose as a diagnostic instrument.

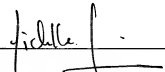
Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested. The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check or credit card payment form being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorize payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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